

ARTIFACT SHEET

Enter artifact number below. Artifact number is application number + artifact type code (see list below) + sequential letter (A, B, C, .). The first artifact folder for an artifact type receives the letter A, the second B, etc.. Examples: 59123456PA, 59123456PB, 59123456ZA, 59123456ZB
09851874 BA

Indicate quantity of a single type of artifact received but not scanned. Create individual artifact folder/box and artifact number for each Artifact Type.

CD(s) containing:

computer program listing

Artifact Type Code: P

Doc Code: Computer

pages of specification
and/or sequence listing

and/or table

Artifact Type Code: S

Doc Code: Artifact

content unspecified or combined

Artifact Type Code: U

Doc Code: Artifact

Stapled Set(s) Color Documents or B/W Photographs

Doc Code: Artifact Artifact Type Code: C

Microfilm(s)

Doc Code: Artifact Artifact Type Code: F

Video tape(s)

Doc Code: Artifact Artifact Type Code: V

Model(s)

Doc Code: Artifact Artifact Type Code: M

Bound Document(s)

Doc Code: Artifact Artifact Type Code: B

Confidential Information Disclosure Statement or Other Documents
marked Proprietary, Trade Secrets, Subject to Protective Order,
Material Submitted under MPEP 724.02, etc.

Doc Code: Artifact Artifact Type Code X

Other, description:

Doc Code: Artifact Artifact Type Code: Z

11033 U.S. PTO
09/1851874
05/09/01

The United States of America



The Commissioner of
Patents and Trademarks

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension.

A handwritten signature in black ink.

Acting Commissioner of Patents and Trademarks

A handwritten signature in black ink.
Attest



US005943448A

United States Patent [19]

Tatsuta

[11] Patent Number: 5,943,448
[45] Date of Patent: Aug. 24, 1999



[54] INFORMATION REPRODUCING SYSTEM,
INFORMATION RECORDING MEDIUM,
AND INFORMATION RECORDING
APPARATUS

59-61383 4/1984 Japan.

[75] Inventor: Seiji Tatsuta, Hachioji, Japan

Primary Examiner—Scott Rogers
Attorney, Agent, or Firm—Frishauf, Holtz, Goodman,
Langer & Chick, P.C.

[73] Assignee: Olympus Optical Co., Ltd., Tokyo,
Japan

[57] ABSTRACT

[21] Appl. No.: 08/764,136

A binarizing section generates binarized data from an image signal of a dot code on an information recording medium read by a code reading section. The binarizing section has a reference dot detection section, a dot area measuring section, a threshold value modifying section and a threshold value determining section. The reference dot detection section binarizes the image signal with a predetermined threshold value prior to generating binarized data to detect a reference dot from a binarized code image. The dot area measuring section measures the area of the reference dot detected by the reference dot detection section. The threshold value modifying section modifies the threshold value for binarization in such a manner that the area measured by the dot area measuring section approaches a predetermined target value. The threshold value determining section binarizes the image signal with the threshold value modified by the threshold value modifying section.

[22] Filed: Dec. 12, 1996

[30] Foreign Application Priority Data

Dec. 25, 1995 [JP] Japan 7-336800

[51] Int. Cl.⁶ G06K 9/38; G06T 7/60

[52] U.S. Cl. 382/270; 382/286

[58] Field of Search 382/270, 286,
382/312, 321, 317, 287; 358/465, 466

[56] References Cited

FOREIGN PATENT DOCUMENTS

0 670 555 A1 9/1995 European Pat. Off.
0 717 398 A3 6/1996 European Pat. Off.

24 Claims, 50 Drawing Sheets

